

Claims

1. A transistor comprising elements of bipolar static induction transistors: two gates, four sources, channels and six electrodes on either side of a lightly doped n-type silicon monocrystal substrate;
one of said channels of the multielement structures is thicker than the other normally-off channels on either side of said substrate;
said thick channels are connected to the separate electrodes on either side of said substrate.

2. The transistor according to claim 1 wherein a layer of a doped n+-type polysilicon is disposed on the silicon monocrystal surface.

3. The transistor according to claim 1 wherein the control over both hole emission into and extraction out the lightly doped area are used as well as the current feedback for said control over emission.


4. The transistor according to claim 1 wherein the thickness of said channels are small and the impurity concentration near said gates is high enough.

5. The transistor according to claim 4 wherein an epitaxial layers of the same type of conductivity with the impurity concentration of about 10^{17} cm.⁻³ are disposed on either side of said substrate;
said gates, said sources and said channels are disposed in said epitaxial layers.

6. The transistor according to claim 5 wherein a layer of a doped n+-type polysilicon is disposed on the silicon monocrystal surface.

7. The transistor according to claim 5 wherein said thick channels are normally-on ones.

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